

# Metal Industry Indicators

## Composite Indexes of Leading and Coincident Indicators of Selected Metal Industries for April and May—Summary Report

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June 15, 2007

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The **primary metals leading index** decreased 0.6% to 154.9 in May from 155.8 in April, and its 6-month smoothed growth rate decreased to 2.3% from a revised 3.6% in April. The 6-month smoothed growth rate is a compound annual rate that measures the near-term trend. Usually a growth rate above +1.0% signals an increase in metals activity, and a growth rate below -1.0% indicates a downturn in activity. Although the primary metals leading index growth rate declined in May, it has generally increased since the beginning of the year. At this point, the metals demand from increased U.S. manufacturing activity could develop into slow-to-modest growth in the primary metals industry in the months to come.

Two of the four indicators that were available for the May index calculation declined, and two increased. A shorter average workweek in primary metals establishments contributed -0.9 percentage points to the net decrease in the leading index. The JOC-ECRI metals price index growth rate decreased for a second consecutive month in May, contributing -0.8 percentage points. In contrast, the stock price index combining construction and farm machinery companies and industrial machinery companies continued to climb, boosting the leading index up 1.0 percentage point. The PMI also increased in May; its contribution rounded to 0.1 percentage point. It remains well above 50.0%, which indicates increased growth in future manufacturing activity. The May leading index should be considered preliminary because only four of its eight indicators were available, and the leading index will likely be revised when the other components are added next month.

Metals are key inputs in durable goods manufacturing and construction, which account for almost a quarter of gross domestic product final sales. Therefore, the primary metals leading index also gives early signals of major changes in activity for the overall U.S. economy (Chart 8).

**The primary aluminum and the aluminum mill products indexes are suspended because of discontinued availability of industry-specific historical data. The USGS will continue to calculate the steel and copper composite indexes.** These indexes are available through April. The steel leading index jumped 2.7% in April. With the exception of new housing permits issued, all nine of its indicators increased. The largest positive contributors to the leading index were shipments of household appliances, the steel scrap price growth rate, the PMI, and the S&P stock price index for steel companies. The steel leading index growth rate has risen high into

positive territory. This normally would predict strong industry activity growth, but current steel demand will more likely support slow-to-modest growth in the months directly ahead. The copper leading index eased down 0.1 % in April with most of its indicators decreasing. A drop in new housing permits issued in April had the strongest negative pull on the leading index. Nevertheless, the soaring price of copper offset most of the decline from the other indicators. The copper leading index growth rate remains barely in positive territory and is not yet suggesting an upturn in the domestic copper industry.

The **metals price leading index** increased 0.8% in April, the latest month for which it is available, to 106.2 from a revised 105.4 in March. Its six-month smoothed growth rate rose to 0.1 % in April from a revised -1.2% in March. Two of its three available indicators made positive contributions to the leading index. The increase in the growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar made the largest positive contribution, 0.6 percentage points, to overall increase in the leading index. The spread between the U.S. 10-year Treasury Note and the federal funds rate contributed 0.2 percentage points. In contrast, the contribution from the decline in the growth rate of the inflation-adjusted value of new orders for U.S. nonferrous metal products rounded to zero. The fourth component, the growth rate of the Economic Cycle Research Institute (ECRI) 18-Country Long Leading Index, was available through March. It rebounded after a dip in February, suggesting slow-to-modest growth for most global economies in the near future. The ECRI 18-Country Long Leading Index gauges future economic activity for major industrialized countries and signals changes in the growth of economic activity about 5 months in advance. The metals price leading index signals major changes in the growth rate of nonferrous metal prices an average of 8 months in advance.

The growth rate of the inflation-adjusted value of U.S. nonferrous metal products inventories, which is an indicator of supply and usually moves inversely with the price of metals, sank back into negative territory in April. With the growth rate of the leading index of metal prices edging above zero, this would suggest some the upward pressure on metals price growth in the near term.

The percent changes from March to April for the **metal industry coincident indexes**, which measure current economic activity, are shown below. April is the latest month for which these indexes are available.

Primary Metals	-0.3%
Steel	0.8%
Copper	-0.4%

Tables 1, 3, 5, and 7 identify the indicators and, for the industry indexes, show the contributions of each indicator to its respective index.

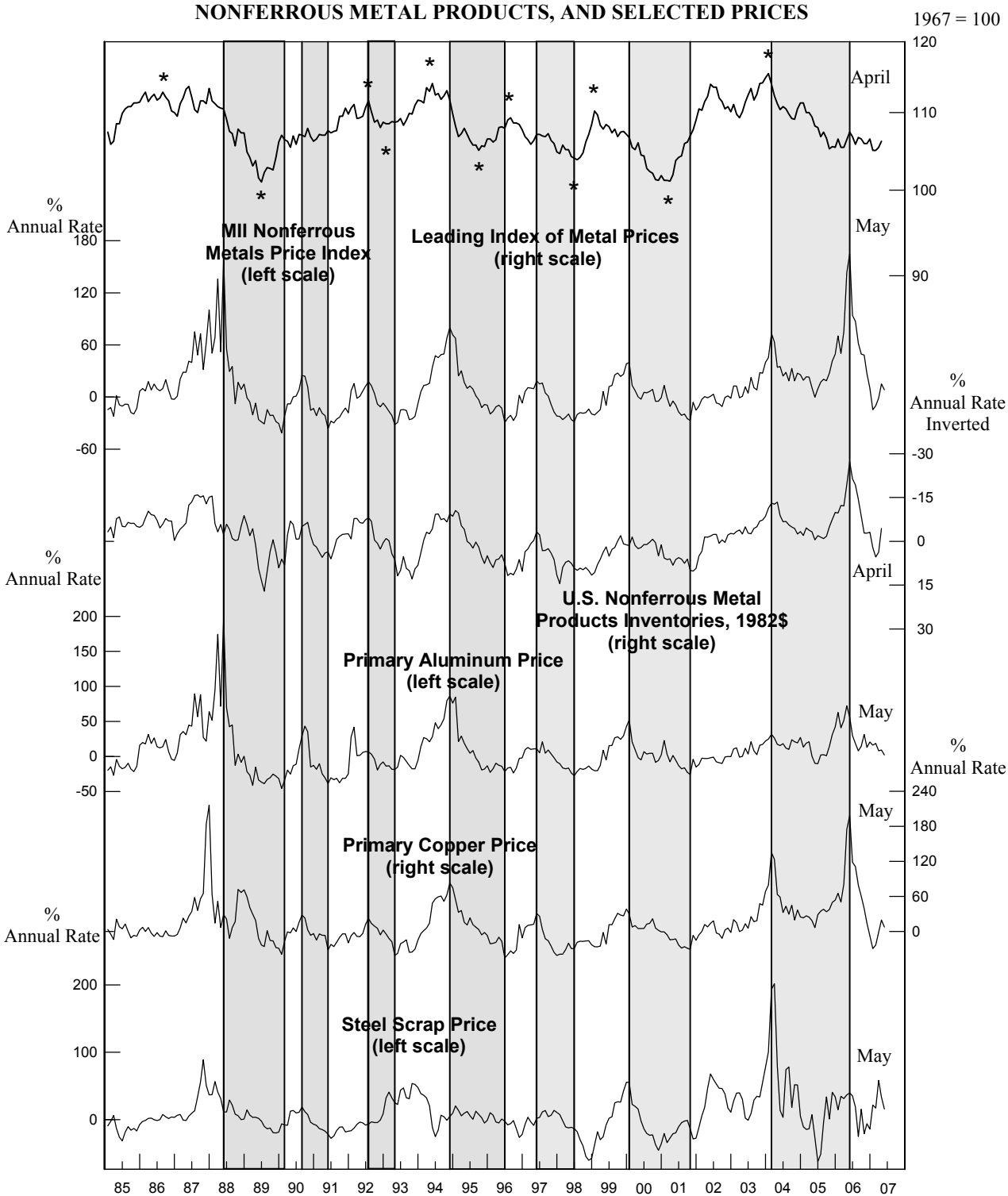
**The *Metal Industry Indicators* report is produced at the U.S. Geological Survey by the Minerals Information Team. For more information about these indexes and the *Metal Industry Indicators* monthly report, contact Gail James (703-648-4915), (e-mail, [gjames@usgs.gov](mailto:gjames@usgs.gov)) at the U.S. Geological Survey.**

**The *Metal Industry Indicators* summary report with indexes for May and June is scheduled for release on the World Wide Web at 10:00 a.m. EDT, Friday, July 20.**

**Table 1.**  
**Leading Index of Metal Prices and Growth Rates of the Nonferrous Metals Price Index,**  
**Inventories of Nonferrous Metal Products, and Selected Metal Prices**

	Leading Index of Metal Prices (1967=100)	Six-Month Smoothed Growth Rates				
		MII Nonferrous Metals Price Index	U.S. Nonferrous Metal Products Inventories (1982\$)	Primary Aluminum	Primary Copper	Steel Scrap
<b>2006</b>						
April	106.4r	143.1	-19.4r	72.3	174.4	36.8
May	107.4r	164.9	-27.2r	56.1	198.4	39.6
June	106.8r	93.8	-21.4r	30.0	118.4	35.5
July	105.8r	87.3	-19.3r	18.4	111.0	18.6
August	106.7r	62.0	-14.4r	8.0	79.0	-25.0
September	106.5r	49.5	-8.6	14.8	60.2	15.5
October	105.9	48.2	-2.8r	31.4	39.2	-20.9
November	105.9	26.7	-2.8r	12.9	13.7	-5.9
December	106.5r	10.2	-3.1r	20.5	-7.6	-14.2
<b>2007</b>						
January	105.0r	-14.6	2.2r	16.0	-29.6	21.8
February	105.0r	-10.0	5.4r	18.7	-23.3	17.2
March	105.4r	-1.0	3.7r	8.2	-1.3	58.3
April	106.2	15.2	-4.4	9.3	19.5	33.3
May	NA	8.4	NA	2.0	7.5	15.9
<b>NA:</b> Not available <b>r:</b> Revised						
<b>Note:</b>	The components of the Leading Index of Metal Prices are the spread between the U.S. 10-year Treasury Note and the federal funds rate, and the 6-month smoothed growth rates of the deflated value of new orders for nonferrous metal products, the Economic Cycle Research Institute's 18-Country Long Leading Index, and the reciprocal of the trade-weighted average exchange value of the U.S. dollar against other major currencies. The Metal Industry Indicators (MII) Nonferrous Metals Price Index measures changes in end-of-the-month prices for primary aluminum, copper, lead, and zinc traded on the London Metal Exchange (LME). The steel scrap price used is the price of No. 1 heavy melting. Inventories consist of the deflated value of finished goods, work in progress, and raw materials for U.S.-produced nonferrous metal products (NAICS 3313, 3314, & 335929). Six-month smoothed growth rates are based on the ratio of the current month's index or price to its average over the preceding 12 months, expressed at a compound annual rate.					
<b>Sources:</b>	U.S. Geological Survey (USGS); American Metal Market (AMM); the London Metal Exchange (LME); U.S. Census Bureau; the Economic Cycle Research Institute, Inc. (ECRI); and Federal Reserve Board.					

**CHART 1.**  
**LEADING INDEX OF METAL PRICES AND GROWTH RATES**  
**OF NONFERROUS METALS PRICE INDEX, INVENTORIES OF**  
**NONFERROUS METAL PRODUCTS, AND SELECTED PRICES**



**Table 2.**  
**The Primary Metals Industry Indexes and Growth Rates**

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
<b>2006</b>				
June	153.4r	6.7r	107.8r	5.1r
July	153.4r	5.4	107.6r	3.8r
August	151.4r	1.6r	107.3r	2.3r
September	150.9r	0.2r	105.8r	-0.8r
October	152.3r	1.4	104.7r	-2.9r
November	150.6r	-1.4	103.6r	-4.8r
December	152.1r	0.0	103.5r	-4.6r
<b>2007</b>				
January	151.8	-0.8r	103.9r	-3.7r
February	153.2r	0.9r	104.2r	-2.9r
March	154.9r	2.9r	104.7r	-1.8r
April	155.8	3.6r	104.4	-2.0
May	154.9	2.3	NA	NA

**NA:** Not available    **r:** Revised

**Note:** Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

**Table 3.**  
**The Contribution of Each Primary Metals Index Component to the Percent Change in the Index from the Previous Month**

<b>Leading Index</b>	<b>April</b>	<b>May</b>
1. Average weekly hours, primary metals (NAICS 331)	-0.3r	-0.9
2. Weighted S&P stock price index, machinery, construction and farm and industrial (December 30, 1994 = 100)	0.3r	1.0
3. Ratio of price to unit labor cost (NAICS 331)	0.5	NA
4. JOC-ECRI metals price index growth rate	-0.1r	-0.8
5. New orders, primary metal products, (NAICS 331 & 335929) 1982\$	0.0	NA
6. Index of new private housing units authorized by permit	-0.4	NA
7. Growth rate of U.S. M2 money supply, 2000\$	0.1	NA
8. PMI	0.5r	0.1
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	0.6r	-0.6
<b>Coincident Index</b>	<b>March</b>	<b>April</b>
1. Industrial production index, primary metals (NAICS 331)	0.1r	0.1
2. Total employee hours, primary metals (NAICS 331)	-0.1	-0.1
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982\$	0.3r	-0.4
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.4r	-0.3

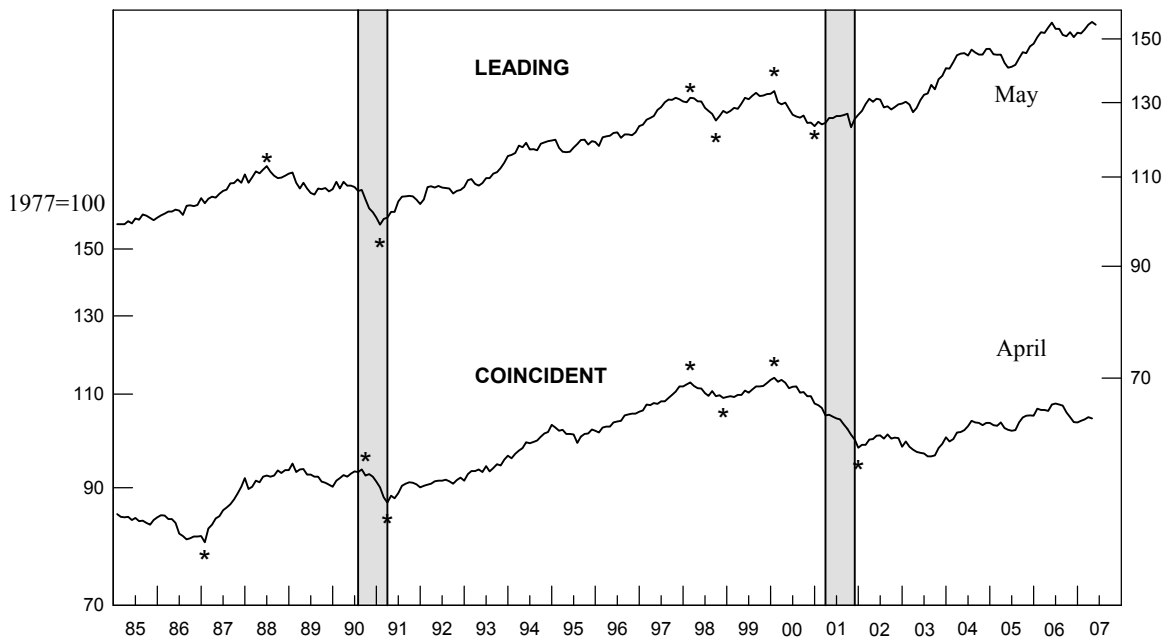
**Sources:** Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and Economic Cycle Research Institute, Inc.; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 8, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey. All series are seasonally adjusted, except 2, 3, and 4 of the leading index.

**NA:** Not available    **r:** Revised

**Note:** A component's contribution, shown in Tables 3, 5, 7, and 9, measures its effect, in percentage points, on the percent change in the index. Each month, the sum of the contributions plus the trend adjustment equals (except for rounding differences) the index's percent change from the previous month.

**CHART 2.**

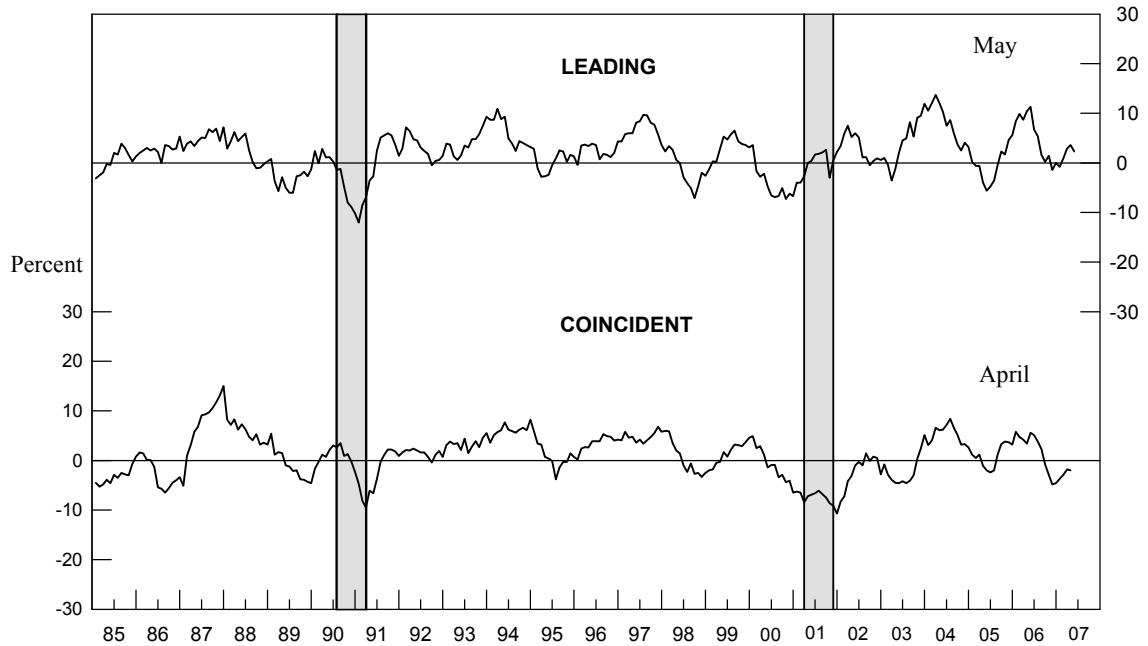
**PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1985-2007** 1977=100



Shaded areas are business cycle recessions. Asterisks (\*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

**CHART 3.**

**PRIMARY METALS: LEADING AND COINCIDENT GROWTH RATES, 1985-2007** Percent



Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

**Table 4.**  
**The Steel Industry Indexes and Growth Rates**

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
<b>2006</b>				
May	121.6r	5.7r	100.6r	3.2r
June	120.9r	3.4r	100.6r	2.7r
July	120.5r	1.8r	100.6r	1.9r
August	119.3r	-0.8r	100.5r	1.1r
September	118.6r	-2.4r	99.7r	-0.7r
October	119.4r	-1.5r	98.3r	-3.5r
November	119.3r	-2.0r	97.6r	-4.7r
December	120.9r	0.5r	97.4r	-4.9r
<b>2007</b>				
January	121.0r	0.7r	99.1r	-1.3r
February	121.8r	1.9r	98.7r	-1.8r
March	122.6r	3.1r	98.7r	-1.3r
April	125.9	8.0	99.5	0.4

r: Revised

**Note:** Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

**Table 5.**  
**The Contribution of Each Steel Index Component to the Percent Change in the Index from the Previous Month**

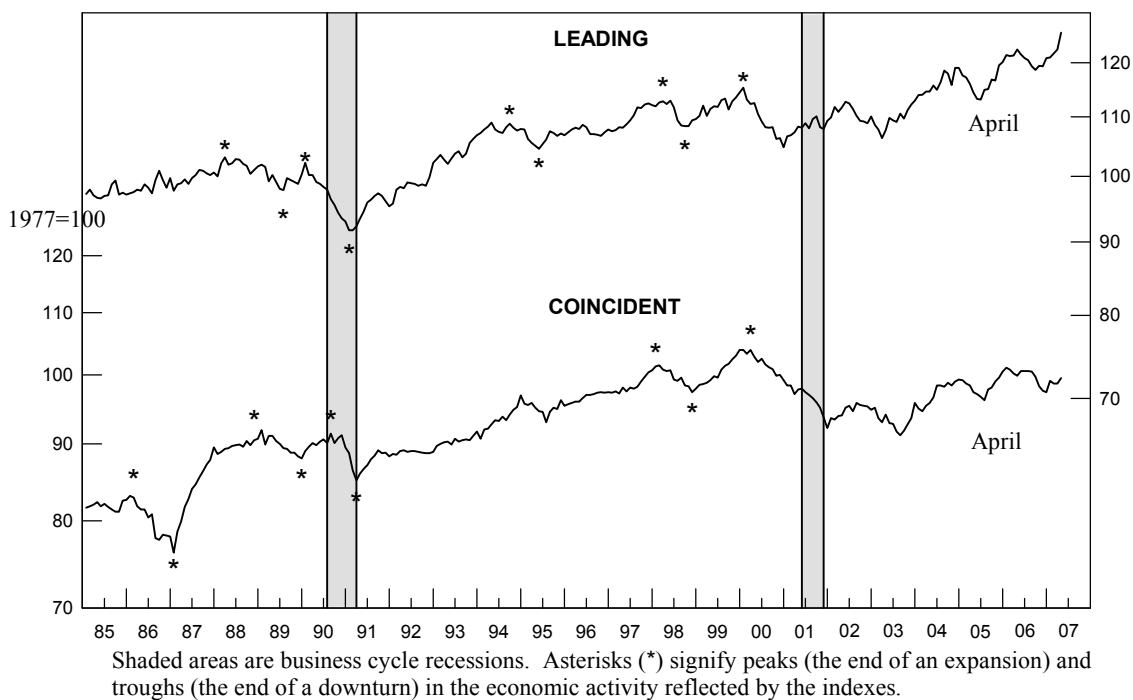
<b>Leading Index</b>	<b>March</b>	<b>April</b>
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	0.1	0.2
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982\$	0.2r	0.0
3. Shipments of household appliances, 1982\$	0.3r	1.0
4. S&P stock price index, steel companies	0.0	0.4
5. Retail sales of U.S. passenger cars and light trucks (units)	-0.2	0.1
6. Growth rate of the price of steel scrap (#1 heavy melting, \$/ton)	0.3	0.7
7. Index of new private housing units authorized by permit	0.1	-0.4
8. Growth rate of U.S. M2 money supply, 2000\$	0.1	0.1
9. PMI	-0.2	0.5
Trend adjustment	0.0	0.0
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Percent change (except for rounding differences)	0.7r	2.6
<b>Coincident Index</b>		
1. Industrial production index, iron and steel products (NAICS 3311 & 3312)	0.2	0.2
2. Value of shipments, iron and steel mills (NAICS 3311 & 3312), 1982\$	0.1r	-0.3
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	-0.3r	0.7
Trend adjustment	0.1	0.1
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Percent change (except for rounding differences)	0.1r	0.7

**Sources:** Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey; 4, Standard & Poor's; 5, U.S. Bureau of Economic Analysis and American Automobile Manufacturers Association; 6, Journal of Commerce and U.S. Geological Survey; 7, U.S. Census Bureau and U.S. Geological Survey; 8, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 9, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Bureau of Labor Statistics and U.S. Geological Survey. All series are seasonally adjusted, except 4 and 6 of the leading index.

r: Revised

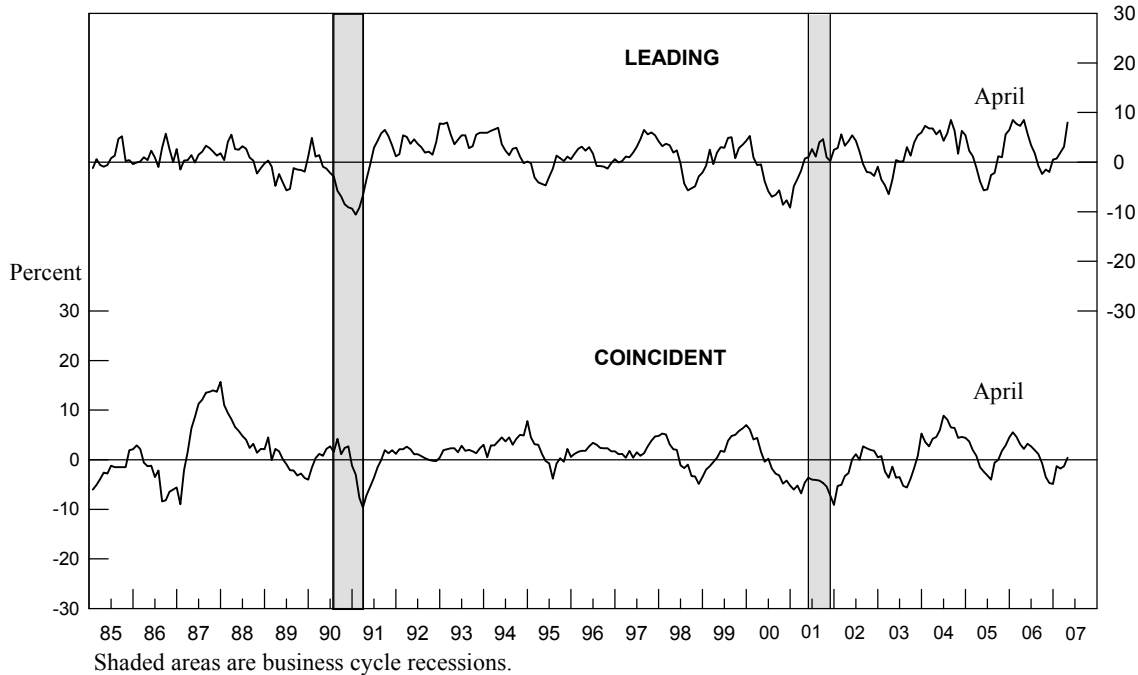
**CHART 4.**  
**STEEL: LEADING AND COINCIDENT INDEXES, 1985-2007**

1977=100



**CHART 5.**  
**STEEL: LEADING AND COINCIDENT GROWTH RATES, 1985-2007**

Percent



**Table 6.**  
**The Copper Industry Indexes and Growth Rates**

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
<b>2006</b>				
May	131.7r	4.8r	112.2	4.8
June	129.3r	0.6	112.4	4.5
July	127.9r	-1.5r	112.5	4.2
August	126.7r	-3.1r	110.9	1.2
September	125.0	-5.2r	107.8r	-4.3
October	124.5r	-5.5r	105.1	-8.7
November	124.7r	-4.8r	105.7	-7.2
December	125.6r	-2.9r	109.4	-0.5
<b>2007</b>				
January	124.9	-3.6r	106.2	-5.9r
February	126.3r	-1.3	106.2r	-5.5r
March	127.2	0.1r	106.8r	-3.9r
April	127.1	0.2	106.4	-4.0

r: Revised

**Note:** Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

**Table 7.**  
**The Contribution of Each Copper Index Component to the Percent Change in the Index from the Previous Month**

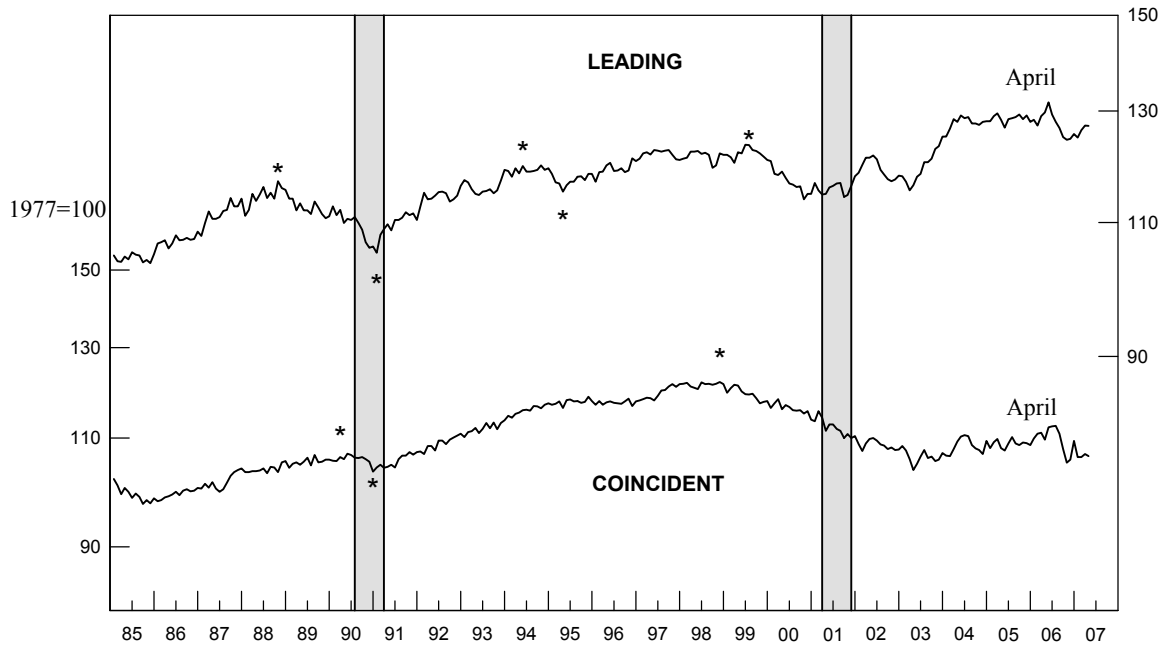
Leading Index	March	April
1. Average weekly overtime hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	0.4r	-0.2
2. New orders, nonferrous metal products, (NAICS 3313, 3314, & 335929) 1982\$	0.0r	-0.1
3. S&P stock price index, building products companies	-0.5	-0.1
4. LME spot price of primary copper	0.8	0.7
5. Index of new private housing units authorized by permit	0.1	-0.5
6. Spread between the U.S. 10-year Treasury Note and the federal funds rate	-0.1	0.1
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	0.7	-0.1
<b>Coincident Index</b>		
1. Industrial production index, primary smelting and refining of copper (NAICS 331411)	-0.3	0.1
2. Total employee hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	0.8r	-0.6
3. Copper refiners' shipments (short tons)	NA	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.6r	-0.4

**Sources:** Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Standard & Poor's; 4, London Metal Exchange; 5, U.S. Census Bureau and U.S. Geological Survey; 6, Federal Reserve Board and U.S. Geological Survey. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics; 3, American Bureau of Metal Statistics, Inc. and U.S. Geological Survey. All series are seasonally adjusted, except 3, 4, and 6 of the leading index.

r: Revised      NA: Not available

**CHART 6.**  
**COPPER: LEADING AND COINCIDENT INDEXES, 1985-2007**

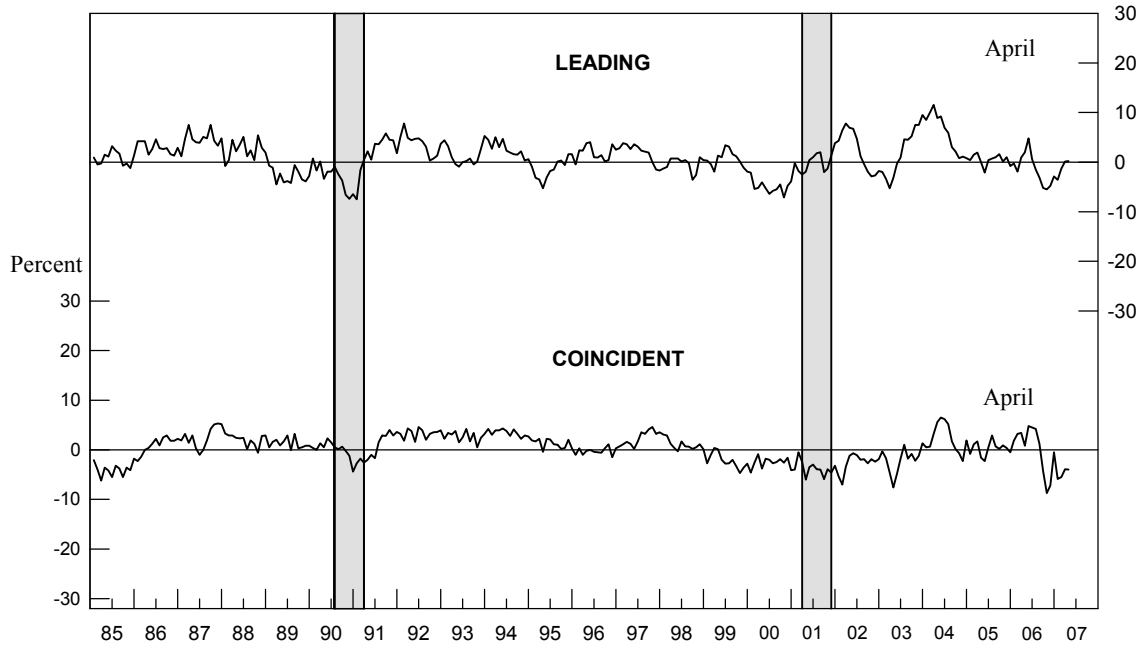
1977=100



Shaded areas are business cycle recessions. Asterisks (\*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

**CHART 7.**  
**COPPER: LEADING AND COINCIDENT GROWTH RATES, 1985-2007**

Percent

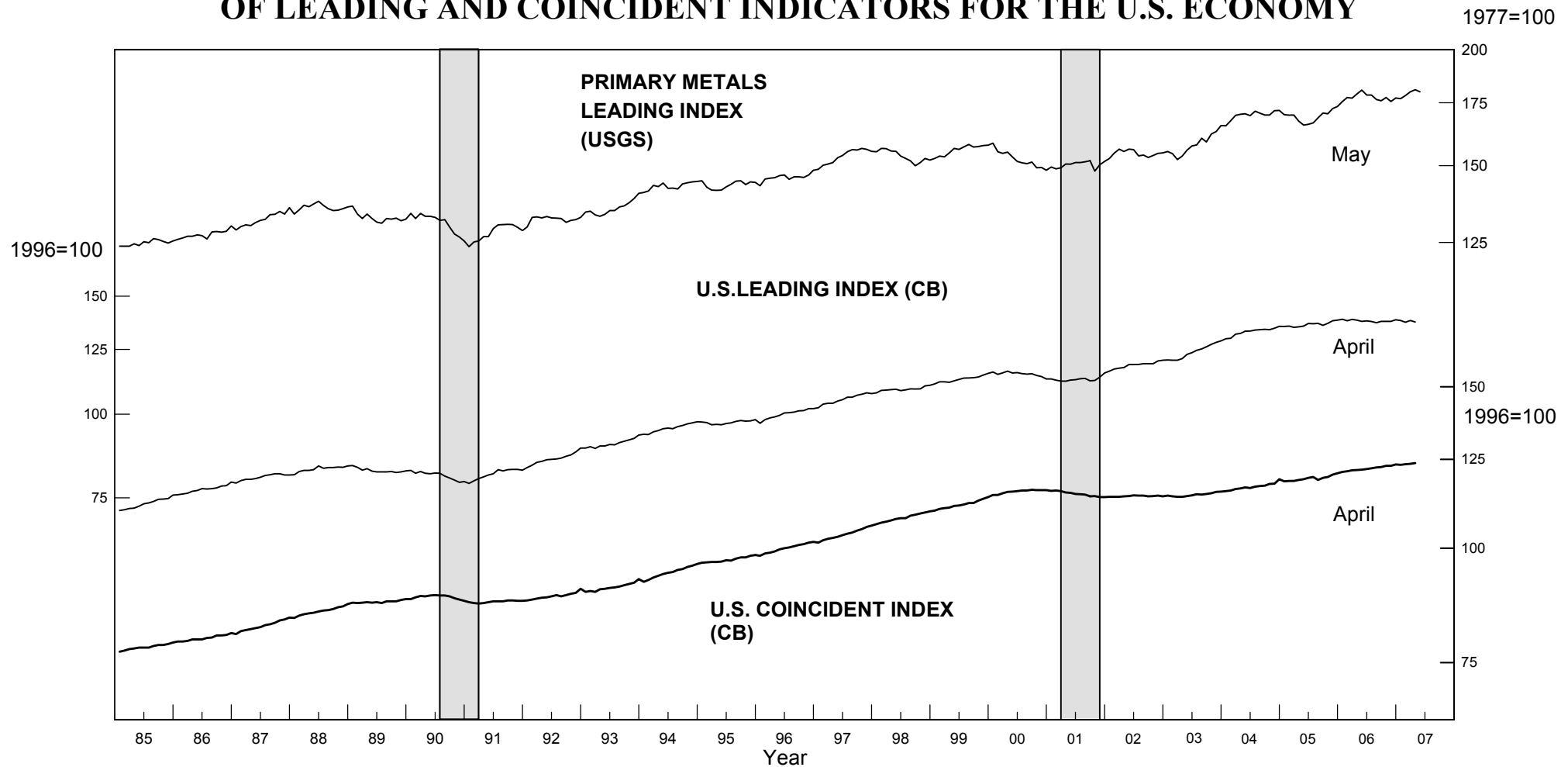


Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

**Chart 8.**

**PRIMARY METALS LEADING INDEX AND COMPOSITE INDEXES  
OF LEADING AND COINCIDENT INDICATORS FOR THE U.S. ECONOMY**



Shaded areas are business cycle recessions.

Sources: U.S. Geological Survey (USGS) and Conference Board (CB).

June 2007